VI. ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires that an EIR identify alternatives to a project as it is proposed. The CEQA Guidelines specify that the EIR should identify alternatives which "will feasibility attain most of the basic objectives of the project but will avoid or substantially lessen any of the significant effects of the project." The purpose of this section is to determine whether there are alternatives of design, scope, or location which will substantially lessen the significant impacts, even if those alternatives "impede to some degree the attainment of the project objectives," or are more expensive. [§15126.6]

In order to comply with the purposes of CEQA, it is important to identify alternatives that reduce the significant impacts which are anticipated to occur if the project is implemented, but to try to meet as many of the project's objectives as possible. The Guidelines emphasize a common sense approach; the alternatives should be reasonable, should "foster informed decision making and public participation," and should focus on alternatives that avoid or substantially lessen the significant impacts.

Significant Impact of the Proposed Project

The significant impact identified in this EIR as resulting from the proposed project is a periodic noise impact that could result in nighttime sleep disturbance. This impact is identified in both the Noise and Land Use sections of this EIR. Because no combination of measures have been identified that would reduce this impact to a less than significant level, this impact would be significant and unavoidable.

Basic Objectives of the Project

The objectives of the proposed project are listed on page 17 of this EIR. The basic objectives of the proposed project include construction and operation of a helipad for emergency evacuations to other medical facilities when imperative for patient survival, availability of a helipad for such emergency evacuations when the new Kaiser Permanente Santa Clara Medical Center hospital opens neonatal facilities in mid-2007, and incorporation of safety features in helipad design to meet FAA and State of California regulations.

Selection of Alternatives

Consideration of a "No Project" alternative is mandatory. The purpose of including a No Project alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project.

Other alternatives addressed in this section include alternative helipad locations that were considered by the applicant or the City of Santa Clara. One of the alternatives (use of the facilities at Norman Y. Mineta San José International Airport) was identified in a comment letter on the previously circulated 2004 Initial Study for the proposed project.

A No Project Alternative of having helicopters continue to land on public streets (i.e., Kaiser Drive at the Kiely Boulevard site or Homestead Road near the new hospital) was considered, but rejected due to safety and logistical concerns of the Santa Clara Police Department and policies of the State of California Department of Transportation Division of Aeronautics regarding hospital heliports and emergency medical service landing sites in urban settings. The Division of Aeronautics position on hospital heliports in urban settings is included in the attached Initial Study (Appendix A of this SEIR).

Background on Ambulance Transportation of Critically Ill Patients Between Hospital Facilities

Most of the alternatives discussed below include some transport of patients by ground ambulance. The type of ambulance transport that would be required is different than the traditional 911 ambulance familiar to most people. Ambulances used to transport patients between hospital facilities are not those assigned to respond to 911 emergency calls as a part of the County's Emergency Medical Response (EMS) system and response times may not be as rapid as for 911 calls.

Critical care ground ambulances used for interfacility transfers may include additional equipment, personnel, and a larger central area of the vehicle. A physician is required to participate in the transfers at each hospital. Critical care transport may require medical supervision by at least one registered nurse. Registered nurses must have at least two years of critical care experience. New guidelines may allow critical care transfers supervised by a paramedic, if called for by a physician.[30]

A. NO PROJECT ALTERNATIVE SCENARIOS

The CEQA Guidelines stipulate that an EIR specifically include a "No Project" Alternative, which should discuss both "the existing conditions, as well as what will be reasonably expected to occur in the foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services."

Possible scenarios under a "No Project" alternative would be 1) no construction of an on-site helipad and use of ground ambulances for all evacuations; and 2) no construction of an on-site helipad and use of Norman Y. Mineta San José International Airport facilities.

The alternative off-site landing location of Norman Y. Mineta San José International Airport is addressed in response to comments received on the December 2004 Initial Study for the proposed project.

1. Ground Ambulance Evacuation Scenario

The distance between the Kaiser Permanente site on Lawrence Expressway and Stanford Medical Center is approximately 15.9 miles. Ground ambulance evacuation from Kaiser Permanente to Stanford Medical Center would take approximately 17-20 minutes during non-peak hour traffic. Approximately 12 miles of the trip could be on Interstate 280; the remainder of travel would be on local streets.

Evacuation of ECMO patients would require specialized equipment and medical staff in a critical care ground ambulance. As noted previously, critical care ambulances used for interfacility transfers are not the ambulances assigned to respond to 911 emergency calls as a part of the County's Emergency Medical Response (EMS) system. A physician is required to participate in the transfers at each hospital and determine the level of care required (i.e., critical care by nurse or critical care by paramedic).[31] A Neonatal Transport ambulance may also be used. They are generally staffed with two Emergency Medical Technicians (EMTs)

[30] John Blain, Compliance Coordinator, Santa Clara County EMS Agency, personal communications, August 25, 2005.

[31] Other types of care for interfacility transfers include versus basic life support by an Emergency Medical Technician (EMT) or advanced life support by a Paramedic.

and a Neonatal Transport Team from either the sending or receiving medical facility.[32] The Neonatal Transport Team is typically staffed with a Registered Nurse, a Respiratory Therapist, and may include a physician. Dispatch of a specialized crew from Stanford University or another critical care/interfacility ambulance provider to the Kaiser Santa Clara facility would require additional travel time.

This alternative would avoid short-term, periodic noise generated by helicopter overflights approximately three to four times per year in the near term and approximately 15 times per year in future years if additional specialized life-saving treatments requiring helicopter evacuations become available at other Bay Area hospitals in the future.

Feasibility

From a medical standpoint, ground ambulance evacuation may not be feasible for all critical patients where transportation time is of the essence for patient survival. Limiting evacuations to ground ambulance only could result in patient mortality or brain damage for some individuals.

Conformance with Project Objectives

The No Project/Ground Ambulance Only alternative evacuation scenario would not conform to any of the basic objectives of the project, including medical objectives related to transfers of critically ill patients when imperative for patient survival. It also would not conform to objectives for constructing a helipad that meets FAA and State of California regulations and avoiding the need to have road closures or assistance from the Santa Clara Police Department to accommodate emergency evacuations from Kaiser Hospital.

2. Ground Ambulance Evacuation to an Existing Heliport: San José International Airport

Facilities for helicopter landings and take-offs are located on the west side of San José International Airport off Coleman Avenue. The distance between the Kaiser Permanente site on Lawrence Expressway and the west side of Norman Y. Mineta San José International Airport is approximately 7.9 miles. Ground ambulance evacuation from Kaiser Permanente to helicopter facilities at San José International Airport would take approximately 10-15 minutes during non-peak hour traffic. The predominant direction of travel would be to the northeast, away from the Stanford Hospital facility.

Like the ground ambulance only scenario above, a critical care ambulance for interfacility transfer would be required.

This alternative would avoid short-term noise emissions generated by helicopter overflights in the vicinity of the Kaiser Santa Clara Medical Center approximately three to four times per year in the near term and approximately 15 times per year in future years if additional specialized life-saving treatments requiring helicopter evacuations become available at other Bay Area hospitals in the future.

[32] County of Santa Clara Emergency Medical Services Agency (EMS-808, *Prehospital Interfacility Care and Non-Emergency Transportation.*

Feasibility

This alternative scenario would increase the travel time for patients and increase the number of transfers between hospital facilities and ground and air ambulances. It would not be a feasible or effective method of transferring critical patients from the future Kaiser Santa Clara Medical Center to other facilities for specialized treatment where transportation time is of the essence for patient survival.

Conformance with Project Objectives

The No Project/Ground Ambulance Evacuation to an Existing Heliport scenario would not meet any of the basic project objectives, including medical objectives related to transfers of critically ill patients when imperative for patient survival. It also would not conform to the objective of avoiding the need to have road closures or assistance from the Santa Clara Police Department to accommodate emergency evacuations from Kaiser Hospital.

B. LOCATION ALTERNATIVES

The alternatives described in the following section are location alternatives that were considered by Kaiser Permanente and the City of Santa Clara.

Overview

Kaiser Permanente's emergency medical services standards require that patients moved outside of a hospital building be transported in a licensed ambulance. For any helipad location that is not connected to or directly adjacent to the hospital, a ground ambulance would be required to transfer critically ill patients to a helipad or other landing area.

The discussion below summaries four alternatives considered during the planning process. The approximate locations of these alternatives within the Kaiser Santa Clara Medical Center site are shown on Figure 17.

1. Hospital Rooftop Alternative

This alternative consists of constructing a rooftop helipad on the new hospital roof. Elevator access to the rooftop would also be required.

As previously discussed, a dedicated helipad was not included in the Planned Development zoning and Development Agreement adopted for the Kaiser Permanente Santa Clara Medical Center. The shells of the hospital buildings on the new Kaiser Permanente Santa Clara Medical Center Campus are complete and the interior work is approximately 80 percent complete at this time. Physical constraints to constructing a helipad on the new hospital roof include the presence of roof top mechanical equipment (*i.e.*, ventilation, cooling and heating systems). While access to the roof could be provided by adding an elevator to the roof, there would not be enough space for helicopter landings unless a platform was constructed over mechanical equipment. A constructed platform could adversely affect the performance of the already installed air handlers unless the platform is raised sufficiently above the air handlers to allow adequate air intake and exhaust without mingling of the air exchanges. The project architect estimates that an approximately 10 foot clearance above the mechanical equipment would be required. Considering the height of the mechanical equipment and the thickness of

Figure 17: Alternative Locations Considered

the helipad platform, the surface of the helipad could be approximately 25 feet above the top of the roof or roughly 85 feet above grade. The helipad would be located approximately 300 feet to the north of the proposed helipad.

Elevating the helipad further above the ground would increase separation (or slant) distance between a helicopter and residential areas during helicopter flights. The area under the 92 SEL contour would shift northward by approximately 300 feet and decrease by approximately by 30 to 40 feet in its width (northern and southern edges), about 50 feet at the western end of the contour (near the pad) and 150 feet at the eastern end of the contour(away from the helipad). This would diminish the area under the contour by approximately 350,000 square feet (approximately eight acres) but would continue to expose the residential uses to the east and to the south (near the boundary of the medical center site) to periodic noise impacts. Short-term maximum noise exposures, therefore, would be reduced, but not to a less than significant level.

Unlike the proposed project, a rooftop helipad and associated landing lights would be visible from Homestead Road and possibly Lawrence Expressway at Lehigh Drive. The helipad would be most visible from eastbound Homestead Road near Swallow Drive to the Kaiser Entrance on Homestead Road. While visual impacts would be greater than the proposed project, a rooftop helipad would not block scenic views or substantially degrade the existing visual character or quality of the site. During helicopter landings, lighting of the helipad would affect nighttime views in a limited area. Due to the low frequency and duration of operation of helipad and wind sock lighting, this would not be a significant adverse aesthetic impact.

The addition of a helipad platform above the fourth floor of the hospital would rise above the maximum building height contemplated by the original Planned Development Zoning approval as reported in the 1994 Final EIR for the Kaiser Permanente Medical Center. The Development Agreement for the Kaiser site also calls for a three to four story hospital.

Feasibility

This alternative is physically feasible. As discussed below, it would require substantial redesign and reconstruction of the partially constructed hospital.

Conformance with Project Objectives

Location of a helipad on the hospital roof would meet the medical objectives of the proposed project.

The shell of the new Kaiser hospital building is complete and interior finishing work is approximately 80 percent complete at this time. This alternative would require substantial redesign and reconstruction of the partially constructed hospital. The redesign and retrofitting of the building would require re-review of the hospital structure by the State of California Office of Statewide Health Planning and Development (OSHPD) as well as reconstruction. This alternative, therefore, may not meet the project objective related to opening a helipad and hospital in mid-2007.

One of the purposes of the objective regarding timing of the helipad and hospital opening is related to State of California seismic requirements for hospitals under Senate Bill (SB) 1953. The Kaiser Permanente Santa Clara Medical Center project currently under construction will

provide a replacement hospital for the Kaiser facility on Kiely Boulevard. Delays associated with resign and reconstruction of the new hospital may affect Kaiser Permanente's compliance with SB 1953 requirements without an extension from the State of California.

3. Roof of Parking Structure Alternative

Under this alternative, a roof top helipad would be constructed on the upper level of the four-level parking structure in the southeast corner of the Kaiser Permanente Medical Center site.

Like a hospital roof top location, elevating the helipad further above the ground would increase the separation (or slant) distance between a helicopter and residential areas during helicopter flights. Short-term maximum noise exposures, therefore, could be reduced.

Feasibility

This alternative is not considered physically feasible in that the helicopter landing area would be separated from the new hospital structure and transport of patients from the hospital to the roof of the parking structure would be difficult. Patients would either have to be moved by ground ambulance to the parking lot roof *or* wheeled through the hospital, across the surface parking lot, up the parking ramps to the roof area, which would not be in conformance with Kaiser Permanente's medical practice. The parking structure ramps would need to be used as the parking structure elevators are not large enough to accommodate critical care transport gurneys. Parking in a landing area would either need to be permanently prohibited or tow trucks might be required to move parked cars or trucks out of the way of a landing helicopter.

Conformance with Project Objectives

Delays associated with arranging for ground transportation and vehicle towing and difficulties with transfers of a critically ill patient from the hospital to a ground ambulance followed by transfer to an air ambulance could impact the health and survival rate of critically ill patients. This alternative would not meet the medical objectives of the proposed project related to rapid patient access to off-site specialized, life-saving medical treatment facilities.

3. North Parking Lot Alternative

Under this alternative, a landing area would be designated, at-grade, in the parking lot to the north of the new hospital structure. This parking lot is approximately 220 feet wide and is located adjacent to internal roadways (refer to Figure 17). As presently designed and constructed, the light standards in the parking lot would be a hazard to landing helicopters and lighting of the parking lot would need to be modified to meet FAA safety criteria. A tow truck could be required to move cars that were in the way of landing helicopters. Landing at this location could disrupt other operations at the Medical Center as internal roadway closures could be required.

An at-grade helipad in the North Parking Lot would shift the flight path and short-term maximum noise exposures approximately 800 feet to the north, closer to Homestead Road. It would reduce short-term maximum noise exposures to residential areas to the east and south, but increase short-term maximum noise exposures to multi-family and single family residential uses north of Homestead Road. Helicopters traveling to the Kaiser site would fly over residential areas at similar elevations as the proposed project, but the individual

residences within the 92 dBA noise contour would change**.** This alternative would shift impacts to the north and avoid some residential neighborhoods south of Homestead Road, but would not reduce periodic noise impacts to a less than significant level.

Feasibility

This alternative would require modification of lighting in an existing parking lot and could temporarily physically interfere with the use of the parking lot and operation of other medical center uses when helicopter landings and take-offs occur. It may be feasible to locate a landing area at this location; however, some restrictions on parking could be required.

Conformance with Project Objectives

This alternative would not wholly meet the medical objectives of the project, as helicopter landings could be delayed to allow for clearance of vehicles from the parking lot.

The parking lot, as currently constructed, would not meet the project objective related to meeting safety requirements of the FAA and State of California for a helipad/heliport.

For the alternatives that include construction of a new helipad, all would be required to incorporate safety features in conformance FAA and State of California regulations. If so constructed and operated it would meet the objectives of avoiding the need for road closures or assistance from the Santa Clara Police Department and potential public safety impacts associated with emergency helicopter landings outside of a permitted heliport.

4. Helipad West of Calabazas Creek Alternative

Under this alternative, a helipad would be constructed on the Kaiser Permanente Medical Center site, west of Calabazas Creek. This alternative would require changes to planned medical center office uses and parking areas at this location.

Feasibility

Like the roof of parking structure alternative discussed above, this alternative is not considered physically feasible in that the helicopter landing area would be separated from the new hospital structure and a ground ambulance would be required to transport patients from the hospital to the helipad.

Conformance with Project Objectives

Delays associated with arranging for ground transportation and difficulties with transfers of a critically ill patient from the hospital to a ground ambulance followed by transfer to an air ambulance could impact the health and survival rate of critically ill patients. This alternative would not meet the medical objectives of the proposed project.

Relocation of the proposed helipad to another location within the Kaiser Permanente site would require extensive redesign of both the helipad and parking or hospital improvements. This would not conform with the applicant's objective of having the helipad operational when the new hospital opens.

C. COMPARISON OF ALTERNATIVES

When reviewing the various alternatives, it is important to keep in mind that the consideration of each alternative by decision-makers includes the evaluation of three basic questions:

1. Would the alternative avoid or substantially lessen any of the significant environmental effects of the project? In other words, is the alternative environmentally superior to the project?

2. Is the alternative infeasible from a land use, economic, physical, or regulatory standpoint?

3. Does the alternative meet, to some degree, the stated project objectives?

The answers to each of these questions is summarized for each of the alternative scenarios in Table 5, below.

Table 5
Comparison of Project Alternatives

Alternative	Reduces or Avoids Significant Noise Impacts?	Is the Alternative Feasible?	Meets Project Objectives?
A.1. No Project—Ground Ambulance Evacuation	Avoids	No	No
A.2. No Project—Ground Ambulance Evacuation to an Existing Heliport	Avoids	No	No
B.1. Location Alternative—Hospital Roof Top*	Reduces, but not to a less than significant level	Yes	Medical Objectives-Yes Timing-No
B.2. Location Alternative—Roof of Parking Structure*	Reduces, but not to a less than significant level	No	No
B.3. Location Alternative—North Parking Lot*	Shifts impacted area to the north; reduces or avoids impacts to some residences, increases at others	Yes	No
B.4. Location Alternative—Helipad West of Calabazas Creek	Shifts impacted area to the north; reduces or avoids impacts to some residences, increases at others	No	No

*From a regulatory standpoint, the hospital roof, parking lot, and parking structure alternatives, would require physical modifications of existing improvements before a helipad could be permitted under State of California and FAA requirements.

D. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the previous discussion, the Hospital Roof Top Alternative addressed in this SEIR would be environmental superior to the proposed project, but would not reduce the significant noise impact of the project to a less than significant level. This alternative would meet the medical objectives of the project however it may not meet the construction schedule objective of the project.